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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,622

03/28/2006

Fumito Nishida

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EXAMINER

ABRAHAM, AMJAD A

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

12/12/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,622	<b>Applicant(s)</b> NISHIDA ET AL.	
	<b>Examiner</b> AMJAD ABRAHAM	<b>Art Unit</b> 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/28/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: **“form” in paragraph [0012], line 2, should be --from--.**

Appropriate correction is required.

### *Claim Objections*

2. Claims 4-9 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should not depend on any other multiple dependant claim. See MPEP § 608.01(n). Accordingly, the claims 4-9 have not been further treated on the merits.

### *Double Patenting*

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-5 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-6 of copending Application No. 10/573,623.

5. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows in table 1 below.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Instant Application	10/573,623
<p>1. A method of preparing a metal-silicone rubber composite, the method comprising the steps of:</p> <ul style="list-style-type: none"> <li>(i) depositing a layer of gold on a surface of a mold;</li> <li>(ii) depositing a primer layer of a metal on the layer of gold, wherein the metal is selected from aluminum, chromium, titanium, and copper;</li> <li>(iii) applying a radiation-curable silicone composition on the primer layer;</li> <li>(iv) curing the silicone composition with radiation to form a silicone rubber; and</li> <li>(v) removing the silicone rubber from the mold, whereby the layer of gold and the primer layer are transferred to the silicone rubber.</li> </ul> <p>Wherein the layer of gold has a thickness of from 25 to 500 nm.</p>	<p>1. A method of metallizing a silicone rubber substrate, the method comprising the steps of:</p> <ul style="list-style-type: none"> <li>(i) depositing a primer layer of aluminum on a surface of a silicone rubber substrate, and (ii) depositing a layer of a ductile metal on the primer layer of aluminum, wherein the ductile metal is selected from: gold, platinum, palladium, copper, silver, aluminum, and indium.</li> </ul> <p>wherein the silicone rubber substrate is prepared by curing a curable silicone composition selected from a hydrosilylation-curable silicone composition, a peroxide curable silicone composition, a condensation-curable silicone composition, an epoxy-curable silicone composition; an ultraviolet radiation-curable silicone composition, and a high-energy radiation-curable silicone composition.</p>

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<p>Wherein the primer layer has a thickness of from 1 to 50 nm.</p> <p>Wherein the primer layer is aluminum. wherein the radiation-curable silicone composition comprises (i) an organopolysiloxane containing radiation-sensitive functional groups and (ii) a photoinitiator.</p>	<p>Wherein the primer layer of aluminum has a thickness of from 1 to 200 nm.</p> <p>Wherein the layer of a ductile metal has a thickness of from 20 to 500 nm.</p> <p>Wherein the ductile metal is gold or platinum.</p>
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**Table 1: A comparison between application 10/573622 and 10/573623**

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsukawa et al. (USP No. 6,153,326) in view of Gibbons et al. (USP No. 5,589,280).

9. Regarding claim 1, Matsukawa discloses a method of preparing a metal-silicone rubber composite **(See examples 1 and 2 in column 3—disclosing the process used to make the metal-silicone rubber composite)**, the method comprising the steps of: (i) depositing a layer of metal on a surface of a mold **(See column 2 lines 42- 49 and examples 1-2 in column 3— disclosing the depositing of a metal plate into the surface of the mold)**; (ii) depositing a primer layer of a metal on the layer of metal **(See column 2 lines 21-29—disclosing the use of a primer layer that is deposited between the silicone resin layer and the metal layer)**, (iii) applying a radiation-curable silicone composition on the primer layer **(See column 2 lines 42-49—disclosing the injection molding/Insert Molding of a Silicone resin layer on the primer layer)**; (iv) curing the silicone composition with radiation to form a silicone rubber **(See column 2 lines 42-49—disclosing the injection molding/Insert Molding of a Silicone resin layer on the primer layer. It would have been obvious to one having the ordinary skill in the art that radiation curing the silicone rubber would be one of many engineering choices used to cure the silicone.)**; and (v) removing the silicone rubber from the mold, whereby the layer of gold and the primer layer are transferred to the silicone rubber. **(See figures 1-6 showing the progression of the silicone composite through the molding process. The end product is released from the mold and has the metal layers transferred onto the cured silicone component.)**

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- a. With respect to claim 1, Matsukawa does not explicitly teach (1) wherein the layer of metal that is deposited in step one is actually a layer of gold and (2) wherein the primer layer metal is selected from aluminum, chromium, titanium, and copper.
- b. However, Gibbons teaches; (1) wherein the layer of metal that is deposited in step one is actually a layer of gold **(See abstract)** and (2) wherein the primer layer metal is selected from aluminum, chromium, titanium, and copper. **(See column 5 line 61 to column 6 line 9—disclosing that the primer layer (adhesion promoting layer) is aluminum or chromium)**
- c. Matsukawa and Gibbons are analogous art because they are from the same field of endeavor which is creating metal on plastic composites. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Matsukawa and Gibbons before him or her, to modify the teachings of Matsukawa to include the teachings of Gibbons for the benefit of improving the adhesion of the metal component to the plastic component when constructing a metal on plastic composite. The motivation for doing so is that if the oxide heat of formation between the primer layer and metal layer are contrasted the adhesion affect can be controlled while keeping the overall strength or desirable characteristics of the composite stable. Therefore it would have been obvious to combine Matsukawa and Gibbons to make the invention disclosed in the instant application because one would have

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been motivated to solve the problem of creating a greater adhesion affect within the composite materials.

10. Regarding claim 2, Matsukawa discloses wherein the surface of the mold has a release coating thereon. It is the Examiner's position that it is well known in the art of transfer molding to utilize a release coating to promote a clean release of the composite product from the mold surface.

11. Regarding claim 3, Matsukawa does not explicitly teach wherein the layer of gold has a thickness of from 25 to 500 nm.

d. However, Gibbons discloses wherein wherein the layer of gold has a thickness of from 25 to 500 nm. **(25 to 500 nm = 250-5000 Angstroms. See column 5 lines 32-59 disclosing that the gold layer can be 100 A to 10,000 A.)**

e. Matsukawa and Gibbons are analogous art because they are from the same field of endeavor which is creating metal on plastic composites. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Matsukawa and Gibbons before him or her, to modify the teachings of Matsukawa to include the teachings of Gibbons for the benefit of creating a composite with a thin layer of metal. The motivation for doing so is to allow the composite to be used in electrical packaging uses and other applications in which the size of the piece is critical. Therefore it would have been obvious to combine Matsukawa and Gibbons to



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make the invention disclosed in the instant application because one would have been motivated to solve the problem of creating the smallest possible composite.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference Takahashi et al. (USP No. 5,093,161) which discloses a method for adhering silicone rubber to a coated metal surface. The reference Swisher (USP No. 5,137,791) which discloses the making of a flexible metal-plastic laminate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMJAD ABRAHAM whose telephone number is (571)270-7058. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571) 272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

*/Angela Ortiz/*

***Supervisory Patent Examiner, Art Unit 4151***